

**Flood Control Project Maintenance
Levee Inspections**
LMA District Cover Sheet
Spring 2016 Levee Inspection Results

Reclamation District No. 1601 Twitchell

	Spring (March - May)	Summer ** (June - August)	Fall (September - November)	Winter ** (December - February)
* Overall LMA Rating (Fall Only)				

** Non-receipt of Summer or Winter Inspection Reports may effect overall annual rating.

*
SPRING INSPECTIONS: Overall maintenance ratings are not determined for the spring inspection results. Individual maintenance deficiencies are rated using the same criteria in the spring and in the fall.

FALL INSPECTIONS: The overall maintenance rating shown above is based on operation and maintenance deficiencies identified within the attached unit inspection reports. This rating is not intended to be an indication of risk.

Comments

**Flood Control Project Maintenance
Levee Inspections**

Unit Cover Sheet

Spring 2016 Levee Inspection Results

Reclamation District No. 1601 Twitchell

Waterway			Bank	Unit Miles
Unit No. 01 Threemile Slough			Left	2.43
	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)				
Date of Inspection	3/29/2016 - 3/29/2016			
DWR Inspector	Richard Willoughby			
Accompanied By				

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

<http://cdec.water.ca.gov/lma.html>

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	03/29/2016 03/29/2016	Richard Willoughby

LM Start	0.00	Rating **	A	Issue No.	6
LM End	0.00	Issue Type +	Ma	Location *	N/A
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Operations & Maintenance Manuals			°	°
				°	°
DWR ID	DWR_RD1601_01_s_2013_6				
Comment Code					
Inspector Comment					
LMA has a copy of the O & M Manuals on file at the office.					

No Photos

LM Start	0.00	Rating **	A	Issue No.	7
LM End	0.00	Issue Type +	Ma	Location *	N/A
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Emergency Supplies & Equipment			°	°
				°	°
DWR ID	DWR_RD1601_01_s_2013_7				
Comment Code					
Inspector Comment					
LMA has adequate floodfight supplies on hand.					

No Photos

LM Start	0.00	Rating **	A	Issue No.	8
LM End	0.00	Issue Type +	Ma	Location *	N/A
Category	Earthen Levee		GPS Latitude/Longitude		
			Start	End	
Item	Flood Preparedness & Training			°	°
				°	°
DWR ID	DWR_RD1601_01_s_2013_8				
Comment Code					
Inspector Comment					
LMA staff involved in the yearly Twitchell Island exercise.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	03/29/2016 03/29/2016	Richard Willoughby

LM Start	0.00	Rating **	M	Issue No.	15
LM End	2.43	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			38.122250 °	38.087655 °
				-121.682517 °	-121.683761 °
DWR ID	DWR_RD1601_01_s _ 2016_15				
Comment Code					
V1 : Control annual grass and weeds on the levee slopes and easements.					
Inspector Comment					

Photo 1 of 1 : SP_2016_RD1601_237_15_20160330_00019.jpg



Looking west at typical view of waterward slope.

LM Start	0.00	Rating **	M	Issue No.	14
LM End	2.43	Issue Type +	Ma	Location *	LS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			38.122250 °	38.087655 °
				-121.682518 °	-121.683761 °
DWR ID	DWR_RD1601_01_s _ 2016_14				
Comment Code					
V1 : Control annual grass and weeds on the levee slopes and easements.					
Inspector Comment					

Photo 1 of 1 : SP_2016_RD1601_237_14_20160330_00020.jpg



Looking southwest at typical view of landward slope.

LM Start	0.00	Rating **	M	Issue No.	13
LM End	0.25	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			38.122235 °	°
				-121.682553 °	°
DWR ID	DWR_RD1601_01_s _ 2015_13				
Comment Code					
C2 : Repair depressions or ruts in the crown or slope.					
Inspector Comment					
Rutting and holes on levee crown.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	03/29/2016 03/29/2016	Richard Willoughby

LM Start	0.11	Rating **	M	Issue No.	16
LM End	0.11	Issue Type +	En	Location *	CR
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			38.120716 °	38.120716 °
				-121.682796 °	-121.682796 °
DWR ID					
Comment Code					
Inspector Comment					
FS_ID:22043 DS_ID:20950 EP_NO: 11227 Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: Appears this crossing might be been recently modified--exposed section of pipe is protected with white paint. Need to contact owner to obtain records. Recommend clearing vegetation along the pipe alignment. FIELD_STRUCT_DESC: 14-inch pipe (not 12-inch pipe as original description noted) through the levee, 4.0 feet below the crown. Siphon primer on waterward shoulder. 36-inch steel (not concrete as original description noted) pipe with shut-off valve inside at landward toe ditch. (ABO No. 11227-1975) FS Date: 5/14/2013					

LM Start	0.11	Rating **	M	Issue No.	16 (cont)
LM End	0.11	Issue Type +	En	Location *	CR

Photo 1 of 2 : UCIP_SP_2016_22043_37621.jpg



View of waterward side. 12-inch pipe to the right and 14-inch pipe to the left.

Photo 2 of 2 : UCIP_SP_2016_22043_37622.jpg



View of landward side with canal located at toe.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	03/29/2016 03/29/2016	Richard Willoughby

LM Start	0.11	Rating **	M	Issue No.	19
LM End	0.11	Issue Type +	En	Location *	CR
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			38.120708 °	38.120708 °
				-121.682798 °	-121.682798 °
DWR ID					
Comment Code					
Inspector Comment					
FS_ID:42024 DS_ID:20953 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: Appears this crossing might have been recently modified--O&M manual calls for 8 inch pipe not 12 inch pipe, need additional information--exposed section of pipe is protected with white paint. Need to contact owner to obtain records. Recommend clearing vegetation along the pipe alignment. FIELD_STRUCT_DESC: 12-inch (not 8 inch listed in USACE) siphon through the levee approximately 3.2 feet below the crown. The existing 8-inch pipe listed in the O&M manual is no longer present at LM 0.1 (USACE-1959), no permit was found authorizing crossing modifications. FS Date: 5/14/2013					

LM Start	0.11	Rating **	M	Issue No.	19 (cont)
LM End	0.11	Issue Type +	En	Location *	CR

Photo 1 of 2 : UCIP_SP_2016_42024_60809.jpg



View of waterward side. 12-inch pipe on the right (u/s) and 14-inch pipe on the left (d/s).

Photo 2 of 2 : UCIP_SP_2016_42024_60810.jpg



View of pipes from landward shoulder. Levee is a gravel road.

* Location	** Rating	+ Issue Type
LS : Land Side WS : Water Side CR : Crown	A : Acceptable M : Minimally Acceptable U : Unacceptable	Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
N/A : Not Applicable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	03/29/2016 03/29/2016	Richard Willoughby

LM Start	0.35	Rating **	M	Issue No.	1
LM End	0.45	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			38.117236 °	38.115921 °
				-121.682869 °	-121.682293 °
DWR ID	DWR_RD1601_01_f_2015_1				
Comment Code					
C2 : Repair depressions or ruts in the crown or slope.					
Inspector Comment					
Rutting on levee crown.					

No Photos

LM Start	0.79	Rating **	U	Issue No.	18
LM End	0.79	Issue Type +	En	Location *	CR
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			38.111078 °	38.111078 °
				-121.682011 °	-121.682011 °
DWR ID					
Comment Code					
Inspector Comment					
FS_ID:33656 DS_ID:20958 EP_NO: N/A Repair Type: Urgent Crossing Status: Not Found UCIP Comments: no markers or signs available--will need to coordinate with owner to determine if crossing is still being used or abandoned. FIELD_STRUCT_DESC: 12-inch steel gas line through the levee. Facility on landward side. FS Date: 5/14/2013					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	03/29/2016 03/29/2016	Richard Willoughby

LM Start	0.79	Rating **	M	Issue No.	20
LM End	0.79	Issue Type +	En	Location *	CR
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			38.111078 °	38.111078 °
				-121.682011 °	-121.682011 °
DWR ID					
Comment Code					
Inspector Comment					
FS_ID:39946 DS_ID:24069 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Indicator Found UCIP Comments: Unable to determine if line crosses levee. Need to contact owner to determine if crossing goes through levee. Also need to determine permit authorizing work on landward side. FIELD_STRUCT_DESC: Steel stand pipe with PVC pipe inside located on landward shoulder. Rip rap located on waterward slope. Unable to determine if crossing goes through levee. Appears to be monitoring gas well. FS Date: 3/19/2009					

LM Start	0.79	Rating **	M	Issue No.	20 (cont)
LM End	0.79	Issue Type +	En	Location *	CR

Photo 1 of 2 : UCIP_SP_2016_39946_71862.jpg



View of landward side--standpipe located on slope.

Photo 2 of 2 : UCIP_SP_2016_39946_71860.jpg



View of landward side--dense vegetation along slope.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable		N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	03/29/2016 03/29/2016	Richard Willoughby

LM Start	1.00	Rating **	M	Issue No.	2
LM End	1.07	Issue Type +	Ma	Location *	CR
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Crown Surface / Depressions / Rutting			38.108088 °	38.107128 °
				-121.682784 °	-121.683190 °
DWR ID	DWR_RD1601_01_f_2015_2				
Comment Code					
C2 : Repair depressions or ruts in the crown or slope.					
Inspector Comment					
Rutting on levee crown.					

No Photos

LM Start	1.40	Rating **	M	Issue No.	21
LM End	1.40	Issue Type +	En	Location *	CR
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			38.102422 °	38.102422 °
				-121.684289 °	-121.684289 °
DWR ID					
Comment Code					
Inspector Comment					
FS_ID:39947 DS_ID:24068 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Indicator Found UCIP Comments: Unable to determine if line crosses levee. Need to contact owner to determine if crossing goes through levee. Also need to determine permit authorizing work on landward side. FIELD_STRUCT_DESC: Steel stand pipe with PVC pipe inside located on landward shoulder. Rip rap located on waterward slope. Unable to determine if crossing goes through levee. Appears to be monitoring gas well. FS Date: 3/19/2009					

Photo 1 of 2 : UCIP_SP_2016_39947_71865.jpg



View of landward side.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Reclamation District No. 1601 Twitchell

Standpipe located on landward side.

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**Flood Control Project Maintenance
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Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	03/29/2016 03/29/2016	Richard Willoughby

LM Start	1.77	Rating **	M	Issue No.	22 (cont)	
LM End	1.77	Issue Type +	En	Location *	CR	
Category	Supplemental			GPS Latitude/Longitude		
				Start	End	
Item	DWR UCIP Field Study			38.097105 °	38.097105 °	
				-121.684815 °	-121.684815 °	
DWR ID						
Comment Code						
Inspector Comment						
FS_ID:39948 DS_ID:24071 EP_NO: N/A Repair Type: Non-Urgent Crossing Status: Indicator Found UCIP Comments: Unable to determine if line crosses levee. Need to contact owner to determine if crossing goes through levee. Also need to determine permit authorizing work on landward side. FIELD_STRUCT_DESC: Steel stand pipe with PVC pipe inside located on landward shoulder. Rip rap located on waterward slope. Unable to determine if crossing goes through levee. Appears to be monitoring gas well. FS Date: 3/19/2009						

Photo 2 of 2 : UCIP_SP_2016_39948_71868.jpg



View of landward side.

LM Start	2.05	Rating **	M	Issue No.	17
LM End	2.05	Issue Type +	En	Location *	CR
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			38.093107 °	38.093107 °
				-121.684525 °	-121.684525 °
DWR ID					
Comment Code					
Inspector Comment					
FS_ID:19545 DS_ID:20951 EP_NO: 2909A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: Appears this crossing might be been recently modified--exposed section of pipe is protected with white paint. Need to contact owner to obtain records. Recommend clearing vegetation along the pipe alignment. Dense vegetation on landward slope limits the inspector's visibility to identify signs of leaks along levee slope. FIELD_STRUCT_DESC: 8-inch siphon pipe through levee, 2.4 feet below crown. Cutoff wall around pipe at center of levee. Siphon breaker on apex of pipe on landward shoulder. Hand primer pump on landward slope. (Permit No. 2909A-1960) FS Date: 5/14/2013					

Photo 1 of 2 : UCIP_SP_2016_19545_33173.jpg



View of levee crown looking downstream at crossing.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Spring 2016

Reclamation District No. 1601 Twitchell

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Threemile Slough	Left	2.43	03/29/2016 03/29/2016	Richard Willoughby

LM Start	2.05	Rating **	M	Issue No.	17 (cont)	
LM End	2.05	Issue Type +	En	Location *	CR	
Category	Supplemental			GPS Latitude/Longitude		
				Start		End
Item	DWR UCIP Field Study			38.093107 °		38.093107 °
				-121.684525 °		-121.684525 °
DWR ID						
Comment Code						
Inspector Comment						
FS_ID:19545 DS_ID:20951 EP_NO: 2909A Repair Type: Non-Urgent Crossing Status: Found UCIP Comments: Appears this crossing might be been recently modified--exposed section of pipe is protected with white paint. Need to contact owner to obtain records. Recommend clearing vegetation along the pipe alignment. Dense vegetation on landward slope limits the inspector's visibility to identify signs of leaks along levee slope. FIELD_STRUCT_DESC: 8-inch siphon pipe through levee, 2.4 feet below crown. Cutoff wall around pipe at center of levee. Siphon breaker on apex of pipe on landward shoulder. Hand primer pump on landward slope. (Permit No. 2909A-1960) FS Date: 5/14/2013						

Photo 2 of 2 : UCIP_SP_2016_19545_33174.jpg



View of levee crown looking upstream at crossing.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable N : Not Inspected/Rated M : Minimally Acceptable C : Corrected U : Unacceptable A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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